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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,994	08/21/2003	Robert Josef Franda	0011-0410P	7093
2292 7590 01/23/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER ROGERS, DAVID A	
			ART UNIT	PAPER NUMBER
			2856	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
2 MONTHS		01/23/2007	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 2 MONTHS from 01/23/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.		Applicant(s)	
	10/644,994		FRANDA ET AL.	
	Examiner		Art Unit	
	David A. Rogers		2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 4-6 and 9-17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 7 and 8 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/21/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Invention I (claims 1-3, 7, and 8) in the reply filed on 08 November 2006 is acknowledged. The traversal is on the ground(s) that the restriction is excessive. This is not found persuasive because the methods, as claimed, are distinct for the reasons set forth in the 13 October 2006 restriction requirement. The requirement is still deemed proper and is therefore made FINAL. Claims 4-6 and 9-17 are hereby withdrawn from consideration as being drawn to nonelected inventions.

Claim Objections

2. Claim 1 is objected to because of the following informalities:

Step c) of claim 1 requires subjecting the solid/liquid and liquid carrier to at least two different pressures (P_1 and P_2) and measuring two corresponding different densities (ρ_1 and ρ_2) and measuring temperature (T). Currently claim 1 merely recites that n , P_1 , P_2 , ρ_1 , ρ_2 , and T are measured, but there are no positive steps that expressly define n , P_1 , P_2 , ρ_1 , ρ_2 , and T . It is suggested that claim 1 be amended to state, in step c), that the solid/liquid and liquid carrier is subjected to two different pressures (P_1 and P_2), the corresponding densities (ρ_1 and ρ_2) are measured along with the temperature (T), and the moles of free gas (n) is determined.

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Furthermore, step c) list equation 12 as $V = V_{t1} - V_1 = \left(\frac{1}{\rho_1} - \frac{nRT}{P_1} \right)$.

However, the variables V_{t1} and V_1 are not expressly defined in the claim. It is suggested that the above equation be amended to delete the term $V_{t1} - V_1$.

Finally, in step c) the value for n is determined as

$n = \left(\frac{P_1 P_2}{RT(P_1 - P_2)} \right) \left(\frac{1}{\rho_1} - \frac{1}{\rho_2} \right)$ (applicant's equation 11). Replacing n in the

applicant's equation 12 with equation 11 provides

$$V = \left(\frac{1}{\rho_1} - \left(\frac{P_1 P_2}{RT(P_1 - P_2)} \right) \left(\frac{1}{\rho_1} - \frac{1}{\rho_2} \right) \frac{RT}{P_1} \right)$$

which quickly reduces to

$$V = \left(\frac{1}{\rho_1} - \left(\frac{P_2}{(P_1 - P_2)} \right) \left(\frac{1}{\rho_1} - \frac{1}{\rho_2} \right) \right).$$

It is not clear why the applicant requires the ideal gas law constant R or the measurement of temperature T since both of these parameters are not required for determining the gas-free volume. It is requested that the applicant confirm the above and also verify the written description to ensure that all equations are method steps are properly recited.

Appropriate correction is required.

Allowable Subject Matter

3. Claims 1-3, 7, and 8 are allowed subject to the correction of the objections noted above.

4. The following is an examiner's statement of reasons for allowance:

The prior teaches determining gas contents of fluids/liquids. However, the prior art does not teach controlling a process by measuring true density of the fluid, calculating a weight percentage of the solids or the liquid concentration in the mixture, comparing these to target values, and adjusting the solids or liquid concentration.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. This application is in condition for allowance except for the following formal matters noted above. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213. A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Rogers whose telephone number is (571) 272-2205. The examiner can normally be reached on Monday - Friday (0730 - 1600). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on

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(571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

dar

16 January 2006


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
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